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*Hyner's Station Oil Well Section, included in a Detailed Section of the Rocks Between the Lower Productive Coal Measures (XIII), and the Dark Slates of the Devonian (VIII) in the Vicinity of Renovo, Clinton Co., Pennsylvania.*

BY H. M. CHANCE.

(Read before the American Philosophical Society, May 3d, 1878.)

The order of the Coal Rocks of the section was determined by Mr. C. A. Ashburner, by a survey made near Renovo, in 1875. The lower part of the section is taken from a record (kept by Mr. Jas. David) of a well drilled for oil near Hyner Station on the P. & E. R. R. The remainder of the section is supplied by several intermediate sections of the surface exposures between Renovo and Hyner. The total thickness of measures described amounts to 3460 feet, grouped as follows :

Lower Productive Coal Measures; Sandstone shale, fire-clays, etc., with four (4) workable beds of coal.....	212'
Massive Sandstones, parted by shale, and thin bedded sandstones. The sandstones of this group are white to yellowish-gray in color, massive, hard, and coarse grained, causing prominent topographical features. The whole mass in all of its features resembles the Conglomerate (No. XII) .....	245'
Greenish-gray thin bedded Sandstones, generally fine grained, with some brownish mottled sandstones, and some micaceous beds separated by softer measures—shales and slates—with an occasional red band.....	390'
Greenish-gray Sandstones, laminated and fine grained, with an occasional band of red sandstone, and a large percentage of micaceous beds alternating with red and olive-gray shales. Red is very prominent down to the mouth of the well.....	630'
Red Sandstone and shale with occasional bands of gray sandstone and shale (Lower Catskill?).....	796'
Slates and Shales, bluish in color, with some sandy bands to the bottom of the well (Chemung?).....	1187'
Total thickness of rocks described in section.....	3460'

*Detailed Section.*

Concealed.....	15'
Coal (5) of Mr. Ashburner's provisional numbers.....	4'
Concealed .....	92'
Coal (4) (3 feet 2 inches measured).....	3'
Fire-clay with "kidney ore.".....	10'
Shale and Shaly S. S.....	15'
S. S., coarse grained.....	26'
Concealed.....	4'
Coal (3).....	4'
Concealed.....	26'
S. S., gray.....	10'
Coal (2) (3 feet 2 inches measured).....	3'

212'

S. S., gray, hard, "upper part S. S., lower part shale."	33'
Coal (1)	1'
Conglomerate	25'
Concealed. Mr. Ashburner states that some red shale has been found here	41'
S. S. hard, gray, coarse grained	25'
S. S. white and gray, thin bedded, with some shale	40'
S. S. hard, very dark gray	20'
Concealed	25'
S. S. coarse and loose grained, gray	35'
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	245'
Concealed—trace of red	65'
S. S. hard, thin bedded, grayish steel color	25'
S. S. brownish, fine grained; micaceous, with shale and traces of red; poorly exposed	50'
S. S. fine grained greenish-gray	20'
S. S. very fine grained and thin bedded, gray	20'
Shales, with shaly micaceous brownish sands—poorly exposed—traces of red	45'
S. S. mottled, brownish, micaceous and flaggy, in two members parted by shale	75'
Shale; with some fine grained greenish-gray S. S.	90'
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	390'
S. S. and Shale, red and olive, fine grained and micaceous	20'
S. S. greenish-gray, with shale	70'
S. S. fine grained red and gray alternating with shale	175'
S. S. red, with a little gray interbedded	25'
S. S. greenish-gray	15'
S. S. red	20'
Concealed	35'
S. S. greenish-gray, hard, with some red bands	30'
Concealed	20'
Shale and S. S. red	10'
Concealed	10'
S. S. fine grained greenish-gray	10'
Concealed	20'
S. S. fine grained greenish-gray	10'
Concealed	10'
S. S. red, mostly fine grained and shaly	30'
Concealed	30'
S. S. hard, dark gray mottled with brown	5'
Concealed	25'
Shale and S. S. red	30'
Concealed to <i>mouth of well</i>	30'
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	630'

"Stone and wash;" Drift (local) ( <i>floor of derrick</i> ).....	50'
Red rock "with iron.".....	30'
Gray rock, hard and dark.....	15'
Red rock partly shales.....	22'
Gray with mica.....	16'
Red rock, hard.....	5'
Red rock, salt water.....	32'
"Copper rock" of the miners.....	4'
Red rock, salt water.....	10'
Gray rock, ".....	16'
S. S. red, <i>gas</i> .....	46'
Red rock with shales, <i>gas</i> .....	52'
Gray rock, <i>very hard</i> .....	11'
Red rock with gray shales.....	115'
S. S.....	4'
S. S. red.....	111'
Gray rock.....	8'
Shale, red and sandy, <i>gas</i> .....	37'
Gray rock, dark with some sandy bands.....	95'
Red rock, " <i>some oil</i> .".....	35'
Shale, sandy and gray, "partially hard.".....	35'
Shale; red, <i>some oil</i> .....	10'
Gray rock with sand.....	30'
Shale red.....	7'
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	796'
Shale and S. S. alternating, blue.....	67'
S. S. fine and white.....	25'
Slate; blue.....	38'
S. S. and blue slate alternating.....	96'
S. S. white.....	6'
S. S. blue, very hard.....	55'
S. S. and Shale, blue and very hard.....	92'
S. S. and Shale; blue.....	30'
S. S. brown and white, <i>oil and gas</i> .....	5'
S. S. dark blue, with shale.....	165'
S. S. dark blue, with white sand shells.....	10'
Sand shale, soft and blue.....	33'
Shale, blue, with brown and black sand shells.....	125'
Shale; soft blue.....	150'
S. S. white, <i>with oil</i> *.....	46'
Shale, sandy; blue.....	25'
Sandy shelly rock, blue.....	219'
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	1187'
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Depth of Well by addition.....	1983'
Depth of Well reported by Mr. David.....	1978'
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Total Thickness of Measures in the Section.....	3460'

\*The quantity of oil is not stated, and the well is not considered productive.